

FIG. 1A

Mouse Microtro	1	ATGGCCAAGTATCGGACCTTGAAGCCAGGCCTGATGATGGGAGAACGA	50
Human Microtro	1	ATGGCCAAGTATGGAGAACATGAAGCCAGTCTGACAAATGGGAGAACGA	50
Canine Microtr	1	ATGGCCAAGTATGGAGAACATGAAGCCAGTCTGATAATGGGAGAACGA	50
		***** ** * ***** ** * *****	
Mouse Microtro	51	ATTGAGTGACATCATTAAGTCCAGATCTGATGAACACAATGATGTACAGA	100
Human Microtro	51	ATTGAGTGATATCATTAAGTCCAGATCTGATGAACACAATGACGTACAGA	100
Canine Microtr	51	ATTGAGTGACATCATTAAGTCCAGATCTGATGAACACAATGACGTACAGA	100
		***** ***** ** * ***** ** * *****	
Mouse Microtro	101	AGAAAACCTTTACCAAATGGATAAACGCTCGATTTTCCAAGAGTGGAAA	150
Human Microtro	101	AGAAAACCTTTACCAAATGGATAAATGCTCGATTTTCAAAGAGTGGAAA	150
Canine Microtr	101	AGAAAACCTTTACCAAATGGATCAATGCGCGATTTTCAAAGAGTGGAAA	150
		***** ***** ** * ***** ** * *****	
Mouse Microtro	151	CCACCCATCAGTGATATGTTCTCAGACCTCAAAGATGGGAGAAAGCTCTT	200
Human Microtro	151	CCACCCATCAATGATATGTTTACAGACCTCAAAGATGGAAGGAAGCTATT	200
Canine Microtr	151	CCACCCATCAATGATATGTTTACAGACCTCAAAGATGGAAGGAAGCTCCT	200
		***** ***** ** * ***** ** * *****	
Mouse Microtro	201	GGATCTTCTGAAGGCCTCACAGGAACATCATTTGCCAAAGGAACGTGGTT	250
Human Microtro	201	GGATCTTCTAGAAGGCCTCACAGGAACATCACTGCCAAAGGAACGTGGTT	250
Canine Microtr	201	GGATCTTCTGAAGGCCTCACAGGAACATCACTGCCAAAGGAACGTGGTT	250
		***** ***** ** * ***** ** * *****	

FIG. 1B

Mouse Microtro	251	CCACAAGGGTGCCATGCCCTTAAACAATGTCAACCGAGTGCTACAGGTTT	300
Human Microtro	251	CCACAAGGGTACATGCCCTTAAATAACGTCAACAGAGTGTGACAGGTTT	300
Canine Microtr	251	CCACAAGGGTACATGCTTTAAATAATGTCAACAGAGTGTGACAGGTTT	300
		*****	*****
Mouse Microtro	301	CATCAGAACAAATGTGGACTTGGTGAATATTGGAGGCACGGACATTGTGGC	350
Human Microtro	301	CATCAGAACAAATGTGGAATTAGTGAATATAGGGGAACTGACATTGTGGA	350
Canine Microtr	301	CATCAGAACAAATGTGGATTAGTGAATATAGGAGGAACTGACATTGTAGA	350
		*****	*****
Mouse Microtro	351	TGGAATCCCAAGCTGACTTTAGGGTTACTCTGGAGCATCATTCTGCACT	400
Human Microtro	351	TGGAATCACAAACTGACTTTGGGGTTACTTTGGAGCATCATTCTGCACT	400
Canine Microtr	351	TGGAATCACAAACTGACTTTGGGATTACTTTGGAGCATCATTCTGCACT	400
		*****	*****
Mouse Microtro	401	GGCAGGTGAAGGATGTCATGAAAGATATCATGTGACAGACCTGCAGCAGACA	450
Human Microtro	401	GGCAGGTGAAGGATGTCATGAAAGATGTCATGTGCGACCTGCAGCAGACG	450
Canine Microtr	401	GGCAGGTGAAGGATGTCATGAAAGATGTCATGTGACAGACCTGCAGCAGACA	450
		*****	*****
Mouse Microtro	451	AACAGCGAGAGATCCTGCTGAGCTGGGTGGGCAGACCAAGGCCCTTA	500
Human Microtro	451	AACAGTGAGAGATCCTGCTGAGCTGGGTGGGTGCGTCAGACCAAGGCCCTTA	500
Canine Microtr	451	AACAGTGAGAGATCCTGCTGAGCTGGGTGGGTGCGGTGCGTCAGACCAAGGCCCTTA	500
		*****	*****

FIG. 1C

Mouse Microoutro	501	CAGTCAAGTCAACGTCCTCAACTTCACCACCAGCTGGACCGATGGACTCG	550
Human Microoutro	501	CAGCCAAAGTCAACGTCCTCAACTTCACCACCAGCTGGACAGATGGACTCG	550
Canine Microoutro	501	CAGCCAGGTCAACGTCCTCAACTTCACCACCAGCTGGACAGATGGACTGG	550
		*** ** *****	***** *
Mouse Microoutro	551	CGTTCAACGCCGCTGCTCCACCGGCACAAACCAGATCTCTTCGACTGGGAC	600
Human Microoutro	551	CCTTTAATGCTGTCTCCACCGACATAAACCTGATCTCTTCAGCTGGGAT	600
Canine Microoutro	551	CCTTTAATGCTGTCTGCGACCGACATAAACCTGATCTCTTCAGCTGGGAT	600
		* ** ** * ** * ** * ** * ** * ** * ** * ** * ** * ** * **	*****
Mouse Microoutro	601	GAGATGGTCAAAATGTCCCAATTGAGAGACTTGACCATGCTTTTGACAA	650
Human Microoutro	601	AAAGTTGTCAAAATGTCAACCAATTGAGAGACTTGAACATGCCCTTCAGCAA	650
Canine Microoutro	601	AGAGTTGTCAAAATGTCCCAATTGAGAGACTTGAACATGCCCTTCAGCAA	650
		* ** * ** * ** * ** * ** * ** * ** * ** * ** * ** * ** *	***
Mouse Microoutro	651	GGCCACACTTCTTTGGGAATTGAAAAGCTCCTAAGTCCTGAAACTGTTG	700
Human Microoutro	651	GGCTCAAACTTATTTGGGAATTGAAAAGCTGTAGATCCTGAAGATGTTG	700
Canine Microoutro	651	AGCTCAAACTTATTTGGGAATTGAAAAGCTGTAGATCCTGAAGATGTTG	700
		** ** ** * ** * ** * ** * ** * ** * ** * ** * ** * ** * **	*****
Mouse Microoutro	701	CTGTGCATCTCCCTGACAAGAAATCCATAATTATGTATTTAACGTCCTG	750
Human Microoutro	701	CCGTTGCGCTTCTGACAAGAAATCCATAATTATGTATTTAACATCTTTG	750
Canine Microoutro	701	CCGTTCAACTTCTGACAAGAAATCCATAATTATGTATTTAACATCTTTG	750
		* ** * ** * ** * ** * ** * ** * ** * ** * ** * ** * ** *	*****

FIG. 1D

Mouse Microtroutro	751	TTTGAGGTGCTTCTCTCAGCAAGTCACGATAGATGCCATCCGAGAGGTGGA	800
Human Microtroutro	751	TTTGAGGTGCTACCTCAGCAAGTCACCATAGACGCCATCCGTGAGGTAGA	800
Canine Microtroutro	751	TTTGAGGTGCTTCTCTCAGCAAGTCACCTAGATGCCATCCGTGAAGTAGA	800

Mouse Microtroutro	801	GACTCTCCCAAGGAAGTATAAGAAAGAAATGTGAAGAGGAAGAAATTCATA	850
Human Microtroutro	801	GACACTCCCAAGGAAGTATAAGAAAGAAATGTGAAGAGGAAGCAATTAATA	850
Canine Microtroutro	801	GACACTCCCAAGGAAGTATAAGAAAGAAATGTGAAGAGGAAGATAGTA	850

Mouse Microtroutro	851	TCCAGAGTGCAAGTCTGGCAGAGGAAGCCAGAGTCCCCGAGCTGAGACC	900
Human Microtroutro	851	TACAGAGTACAGCGCCTGAGGAGGAGCATGAGAGTCCCCGAGCTGAAACT	900
Canine Microtroutro	851	TACAGAGTCAAGCGCCAGAGGAGGAGCATGAGTGTCCCCGAGCTGAAACC	900

Mouse Microtroutro	901	CCTAGCACCGTCACTGAAGTGGACATGGATTGGAACAGCTACCAGATAGC	950
Human Microtroutro	901	CCCAGCACTGTCACTGAGGTGACATGGATCTGGACAGCTATCAGATTGC	950
Canine Microtroutro	901	CCCAGCACTGTCACTGAAGTTGACACGGATCTGGACAGCTATCAGATAGC	950

Mouse Microtroutro	951	GCTAGAGGAAGTGCTGACGTGGCTGCTGCCGGGAGGACACGTTCCAGG	1000
Human Microtroutro	951	GTTGGAGGAAGTGCTGACCTGGTTGCTTTCTGCTGAGGACACTTCCAGG	1000
Canine Microtroutro	951	ACTGGAGGAAGTGCTGACCTGGTTGCTTTCTGCTGAGGACACTTCCAGG	1000

FIG. 1F

```
Mouse Microutro 1251 CGCTCTGATGGAGCTGCAGAAGAAACAGCTGCAGCAGCTCTCAAGCTGGC 1300
Human Microutro 1251 TGTGCTGATGGAACCTGCAGAAGAAGCAACTGCAGCAGCTCTCCGCCCTGGT 1300
Canine Microutr 1251 TGTGTTGATGGAACCTACAAAAGAAGCAGTTGCAACAGCTCTCTGCCTGGT 1300
* . ***** ** ** ***** ** ***** ***** ****
Mouse Microutro 1301 TGGCCCTCACAGAAGAGCGCATTTCAGAAGATGGAGAGCCTCCCGCTGGGT 1350
Human Microutro 1301 TAACACTCACAGAGGAGCGCATTTCAGAAGATGGAAACTTCCCCCTGGAT 1350
Canine Microutr 1301 TAACACTCACAGAAGAACGCGCATTTCAGAAGATGGAAACCTGCCCTGGAT 1350
* * ***** ** ***** ***** ***** * **** *
Mouse Microutro 1351 GATGACCTGCCCTCCCTGCAGAAGCTGCTTCAAGAACATAAAAGTTTCCA 1400
Human Microutro 1351 GATGATGTAAATCTCTACAAAAGCTGCTAGAAGAACATAAAAGTTTCCA 1400
Canine Microutr 1351 GATGATTAAATCCCTACAAAAGCTACTAGAAGATCATAAACGTTTCCA 1400
***** * ** ** ** ***** ** ***** ***** *****
Mouse Microutro 1401 AAATGACCTTGAAGCTGAACAGGTGAAGGTAATTCCTTAACTCACATGG 1450
Human Microutro 1401 AAGTGATCTTGAGGCTGAACAGGTGAAGTAATTCCTTAACTCACATGG 1450
Canine Microutr 1401 AAATGATCTTGAGGCGGAACAGGTGAAGGTAATTCCTTAACTCACATGG 1450
** *** ***** ** ***** ***** ***** *****
Mouse Microutro 1451 TGGTGATTGTGGATGAAAACAGTGGGAGAGTGCCACAGCTCTTCTGGAA 1500
Human Microutro 1451 TGGTCATTGTTGATGAAAACAGTGGTGAGAGCGGTACAGCTATCCTAGAA 1500
Canine Microutr 1451 TGGTGATTGTTGATGAAAACAGTGGTGAGAGTGCCACTGCTGTTCTGGAA 1500
**** ***** ***** ***** ***** ** ** ** ** ** ****
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FIG. 1G

```
Mouse Microtro 1501 GATCAGTTACAGAAACTGGGTGAGCGCTGGACAGCTGTATGCCGCTGGAC 1550
Human Microtro 1501 GACCAGTTACAGAAACTTGGTGAAGCGCTGGACAGCAGTATGCCGTTGGAC 1550
Canine Microtr 1501 GATCAGTTACAGAAACTTGGTGAACGCTGGACAGCAGTGTGCCGTTGGAC 1550
** ***** **
** ***** **
** ***** **

Mouse Microtro 1551 TGAAGAACGTTGGAACAGGTTGCAAGAAATCAGTATTCTGTGGCAGGAAT 1600
Human Microtro 1551 TGAAGAACGTTGGAATAGGTTACAAGAAATCAATATATTGTGGCAGGAAT 1600
Canine Microtr 1551 AGAGGAACGTTGGAGTAGGCTACAAGAAATTAATATATTGTGGCAGGAAT 1600
** ***** **
** ***** **
** ***** **

Mouse Microtro 1601 TATTGGAAGAGCAGTGTCTGTTGGAGGCTTGGCTCACCGAAAAGGAAGAG 1650
Human Microtro 1601 TATTGGAAGAACAGTGTCTGTTGAAAGCTTGGTTAACCGAAAAGGAAGAG 1650
Canine Microtr 1601 TATTAGAAGAACAGTGTCTGTTGAAAGCTTGGCTAACTGAAAAAGGAAGAG 1650
**** *****
**** *****
**** *****

Mouse Microtro 1651 GCTTTGGATAAAGTTCAAACCCAGCAACTTTAAAGACCAGAAAGGAACTAAG 1700
Human Microtro 1651 GCTTTAAATAAAGTCCAGACAAGCAACTTCAAAGACCACAAAAGGAACTAAG 1700
Canine Microtr 1651 GCCTTAATAAAGTCCAGACGAGCAACTTCAAAGACCACAAAAGGAACTAAG 1700
** ** ***** **
** ** ***** **
** ** ***** **

Mouse Microtro 1701 TGTCAGTGTCCGGCGTCTGGCTATATTGAAGGAAGACATGGAATGAAGA 1750
Human Microtro 1701 TGTCAGTGTTCGACGCTGGCTATTTTGAAGGAAGACATGGAATGAAGC 1750
Canine Microtr 1701 TGTCAGCATCCGACGATTGGCTATTTTGAAGGAAGACATGGAATGAAC 1750
***** * **
***** * **
***** *
```

FIG. 1H

```
Mouse Microutro 1751 GGCAGACTCTGGATCAACTGAGTGAGATTGGCCAGGATGTGGGCCAATTA 1800
Human Microutro 1751 GTCAAACATTGGATCAGCTGAGTGAGATTGGCCAGGATGTGGGACAATTA 1800
Canine Microutr 1751 GTCAGGCATTGGATCAGCTGAGTGAGATTGGCCAGGATGTGGGCCAATTA 1800
* ** * *****
* ** * *****
* ** * *****

Mouse Microutro 1801 CTCAGTAATCCCAAGGCATCTAAGAAGATGAACAGTGACTCTGAGGAGCT 1850
Human Microutro 1801 CTTGATAATTCCAAGGCATCTAAGAAGATCAACAGTGACTCAGAGGAACT 1850
Canine Microutr 1801 GTTGATAATCCCAAGGCATCTAAGAAGATCAACAGTGACTCAGAGGAACT 1850
* *****
* *****
* *****

Mouse Microutro 1851 AACACAGAGATGGGATTCTCTGGTTCAGAGACTCGAAGACTCTTCTAACC 1900
Human Microutro 1851 GACTCAAAGATGGGATTCTTTGGTTCAGAGACTAGAAGATTCTCTCAACC 1900
Canine Microutr 1851 AACTCAGAGATGGGATTCTTTGGTTCAGAGACTAGAAGATTCTCTAGCC 1900
** ** *****
** ** *****
** ** *****

Mouse Microutro 1901 AGGTGACTCAGGCGGTAGCGAAGCTCGGCATGTCCCAGATTCCACAGAAG 1950
Human Microutro 1901 AGGTGACTCAGGCTGTAGCAAAAGCTGGGGATGTCTCAGATTCTCTCAGAAG 1950
Canine Microutr 1901 AGGTGACTCAGGCTGTGGCAAAAGCTGGGGATGTCCCAAATTCTCTCAGAAA 1950
*****
*****
*****

Mouse Microutro 1951 GACCTATTGGAGACCGTTTCATGTGAGAGAACAAAGGATGGTGAAGAAGCC 2000
Human Microutro 1951 GACCTTTTGGAGACTGTTTCGTGTAAGAGAACAAAGCAATTACAAAAAATC 2000
Canine Microutr 1951 GATCTTCTGGAGACTGTTTCGCATAAGAGAACAAAGTAACTACAAAAAAGTC 2000
** ** *****
** ** *****
** ** *****
```


[illegible]

FIG. 1K

```
Mouse Microtro 2501 CCTGTTGGGATCATCTATAAATGACTGAGCTCTTCCAATCCCTTGCTGAT 2550
Human Microtro 2501 CCTGTTGGGACCATCTATAAATGACCGAACTCTTTCAATCCCTTGCTGAC 2550
Canine Microtr 2501 CTTGTTGGGACCGTCTATAAATGACTGAATCTTTCAATCTCTTGCTGAC 2550
* **** * **** * **** * **** * **** * **** * **** *
Mouse Microtro 2551 CTGAATAATGTACGTTTCTCTGCCTACCGCACAGCAATCAAAATTCGAAG 2600
Human Microtro 2551 CTGAATAATGTACGTTTCTCTGCCTACCGTACAGCAATCAAAATCCGAAG 2600
Canine Microtr 2551 CTGAATAATGTACGTTTCTCTGCCTACCGTACAGCCATCAAAATCCGAAG 2600
* **** * **** * **** * **** * **** * **** * **** *
Mouse Microtro 2601 GCTGCAAAAAGCATTATGTCTGGATCTCTTAGAGCTGAATACGACGAATG 2650
Human Microtro 2601 ACTACAAAAGCACTATGTTTGGATCTCTTAGAGTTGAGTACAAACAATG 2650
Canine Microtr 2601 ACTACAAAAGCACTGTTTGGATCTCTTAGAGTTGAATACAAACAATG 2650
** **** * **** * **** * **** * **** * **** * **** *
Mouse Microtro 2651 AAGTTTCAAGCAGCACAAACTGAACCAAAATGATCAGCTCCTGAGTGC 2700
Human Microtro 2651 AAATTTCAAAACAGCACAAAGTTGAACCAAAATGACCAAGCTCCTCAGTGT 2700
Canine Microtr 2651 AAGTTTCAAGCAGCACAAACTGAACCAAAATGATCAGCTTCTTAGCGTT 2700
** **** * **** * **** * **** * **** * **** * **** *
Mouse Microtro 2701 CCAGACGTCAATCAACTGTCTGACCACCACCTTACGATGGGCTTGAGCAGCT 2750
Human Microtro 2701 CCAGATGTCAATCAACTGTCTGACAAACAATATGATGGACTTGAGCAAAAT 2750
Canine Microtr 2701 CCAGATGTCAATCAACTGTCTGACAAACAATATGATGGTCTTGAACAAAT 2750
**** * **** * **** * **** * **** * **** * **** * *
```

FIG. 1L

```
Mouse Microtro 2751 GCACAAGGACTTGGTCAATGTTCCACTCTGCGTCGATATGTGTCTCAACT 2800
Human Microtro 2751 GCATAAGGACCTGGTCAACGTTCCACTCTGTGTGATATGTGTCTCAATT 2800
Canine Microtr 2751 GCATAAGGATCTGGTCAACGTTCCACTCTGTGTGGATATGTGTCTCAACT 2800
*** ***** ***** * * ***** *
*** ***** *

Mouse Microtro 2801 GGCTGCTCAACGTATACGACACGGGCGGACTGGAAAAATTCGGGTACAG 2850
Human Microtro 2801 GGTGCTCAATGCTCTATGACACGGGTGGAACCTGGAAAAATTAGAGTGCAG 2850
Canine Microtr 2801 GGTGCTCAATGCTCTATGACACGGGTGGAACCTGGAAAAATAAGAGTGCAG 2850
** ***** ** * ***** * * ***** *
** ***** ** *

Mouse Microtro 2851 AGTCTGAAGATTGGATTGATGTCTCTCCAAAGGCCTCTTAGAAGAGAA 2900
Human Microtro 2851 AGTCTGAAGATTGGATTGATGTCTCTCCAAAGGTCTCTTGGAAAGAAA 2900
Canine Microtr 2851 AGTCTGAAGATTGGATTGATGTCTCTCCAAAGGTCTCTTAGAAGAGAAA 2900
***** ***** ***** ***** *

Mouse Microtro 2901 ATACAGATGTCTCTTTAAGGAGGTGGCAGGGCCCAACTGAGATGTGTGACC 2950
Human Microtro 2901 ATACAGATATCTCTTTAAGGAAGTTGCGGGGCCGACAGAAATGTGTGACC 2950
Canine Microtr 2901 ATACAGATATCTCTTTAAGGAGGTGGCAGTCCGACAGAAATGTGTGACC 2950
***** ***** ** * * * * *

Mouse Microtro 2951 AGCGGCAGCTTGGCCTGCTACTTCACGATGCCATCCAGATCCCTAGGCAG 3000
Human Microtro 2951 AGAGGCAGCTGGGCCCTGTACTTTCATGATGCCATCCAGATCCCCGGCAG 3000
Canine Microtr 2951 AGAGGCAGCTTGGCCCTGTACTTTCATGATGCCATCCAGATCCCTCGGCAG 3000
** ***** ***** * ***** *
** ***** ***** ***** *
```

FIG. 1M

```
Mouse Microtro 3001 CTGGGGGAAGTAGCAGCCTTTGGGGGCAGTAACATTGAGCCCAAGTGTCG 3050
Human Microtro 3001 CTAGGTGAAGTAGCAGCCTTTGGAGGCAGTAATATTGAGCCTAGTGTTCG 3050
Canine Microtr 3001 CTGGGGGAAGTAGCAGCCTTTGGGGGCAGTAATATTGAACCCAGTGTTCG 3050
** ** ***** ** ** ***** ** ** ***** **
Mouse Microtro 3051 CAGCTGCTTCCAGCAGAATAACAACAGCCAGAAATCAGTGTGAAGGAGT 3100
Human Microtro 3051 CAGCTGCTTCCAACAGAAATAACAATAAACCCAGAAATAAGTGTGAAGAGT 3100
Canine Microtr 3051 CAGCTGCTTCCAACAGAAATAACAATAAGCCAGAGATAAGCGTAAAGATT 3100
***** ** ***** ** ***** ** ** ** *
Mouse Microtro 3101 TTATAGACTGGATGCATTTGGAACCCAGTCCATGGTGTGGTTGCCGGTT 3150
Human Microtro 3101 TTATAGATTGGATGCATTTGGAACCCAGTCCATGGTTGGCTCCAGTT 3150
Canine Microtr 3101 TTATAGATTGGATGCGTCTGGAACCCAGTCCATGGTTGGCTGCCAGTT 3150
***** * ***** ***** ** ** *
Mouse Microtro 3151 CTGCATCGGGTCGCAGCTGCTGAGACTGCAAAACATCAGGCCAAATGCAA 3200
Human Microtro 3151 TTACATCGAGTGGCAGCAGCGGAGACTGCAAAACATCAGGCCAAATGCAA 3200
Canine Microtr 3151 TTACACCGAGTGGCTGCAGCTGAGACTGCAAAAGCATCAAGCTAAATGCAA
* ** ** ** * ***** ** *****
Mouse Microtro 3201 CATCTGCAAAGAATGCCCGATTGTTGGGTTCAGATACAGGAGCCTAAAGC 3250
Human Microtro 3201 CATCTGTAAAGAATGTCCAATTGTCCGGTTCAGGTATAGAAGCCTTAAGC 3250
Canine Microtr 3201 CATCTGTAAAGAATGTCCAATAGTTGGTTCAGGTATAGAAGCCTAAAGC
***** ***** ** ** ***** ** ** ***** ****
```

FIG. 1N

```
Mouse Microtr 3251 ATTTAATTATGATGCTGCCAGAGTTGCTTCTTTCTGGAAGAACAGCA 3300
Human Microtr 3251 ATTTAATTATGATGCTGCCAGAGTTGCTTCTTTCTGGAAGAACAGCA 3300
Canine Microtr 3251 ATTTAATTATGATGCTGCCAGAGTTGCTTCTTTCTGGAAGAACAGCA 3300
*****
Mouse Microtr 3301 AAGGCCACAAAGTTACATTACCCGATGCTAGAAATACCTGACATACCGACAAC 3350
Human Microtr 3301 AAAGGTCACAAATACATTACCCAAATGCTGGAATATTTGTATACCTACAAC 3350
Canine Microtr 3301 AAAGGTCACAAATACATTACCCAAATGCTGGAATATTTGTATACCTACAAC 3350
*****
Mouse Microtr 3351 ATCTGGGGAAGATGTGAGAGATTTCACTAAGGTGCTGAAGAACAAAGTTCA 3400
Human Microtr 3351 ATCTGGGGAAGATGTACGAGACTTCACAAAGGTACTTAAGAACAAAGTTCA 3400
Canine Microtr 3351 ATCTGGGGAAGATGTACGAGACTTCACAAAGGTGCTGAAGAAATAAGTTCA 3400
*****
Mouse Microtr 3401 GGTCCAAGAAATATTTTGCCAAACATCCTCGGCTTGGCTACCTGCCTGTC 3450
Human Microtr 3401 GGTCCAAGAAATATTTTGCCAAACATCCTCGGCTTGGCTACCTGCCTGTC 3450
Canine Microtr 3401 GATCAAGAAATATTTTGCCAAACATCCTCGGCTTGGCTACCTGCCTGTC 3450
*****
Mouse Microtr 3451 CAGACCGTGTGGAAGGGGACAACTTAGAAACTTGA 3486
Human Microtr 3451 CAGACAGTTCTTGAAGGTGACAACTTAGAGACTTGA 3486
Canine Microtr 3451 CAGACAGTACTTGAAGGTGACAACTTAGAGACTTGA 3486
*****
```

FIG. 2A

Canine Microtr	1	MAKYGEHEASPDNGQNEFSDIIKRSDEHNDVQKKTFTKWINARFSKSGK	50
Human Microtr	1	MAKYGEHEASPDNGQNEFSDIIKRSDEHNDVQKKTFTKWINARFSKSGK	50
Mouse Microtr	1	MAKYGDLEARPDGQNEFSDIIKRSDEHNDVQKKTFTKWINARFSKSGK	50
		***** ** ** *****	
Canine Microtr	51	PPINDMFTDLKGRKLLDLEGLTGTSLPKERGSTRVHALNNVRVLQVL	100
Human Microtr	51	PPINDMFTDLKGRKLLDLEGLTGTSLPKERGSTRVHALNNVRVLQVL	100
Mouse Microtr	51	PPISDMFSDLKGRKLLDLEGLTGTSLPKERGSTRVHALNNVRVLQVL	100
		*** ** *****	
Canine Microtr	101	HQNNVDLVNIGGTDIVDGNHKLTLGLLWSIILHWQVKDVMKDVMSDLQQT	150
Human Microtr	101	HQNNVELVNIGGTDIVDGNHKLTLGLLWSIILHWQVKDVMKDVMSDLQQT	150
Mouse Microtr	101	HQNNVDLVNIGGTDIVAGNPKLTLGLLWSIILHWQVKDVMKDVMSDLQQT	150
		***** ** *****	
Canine Microtr	151	NSEKILLSWVRQSTRPYSQVNVNFTTSWTDGLAFNAVLRHHRKPDLSWD	200
Human Microtr	151	NSEKILLSWVRQSTRPYSQVNVNFTTSWTDGLAFNAVLRHHRKPDLSWD	200
Mouse Microtr	151	NSEKILLSWVRQSTRPYSQVNVNFTTSWTDGLAFNAVLRHHRKPDLSWD	200
		***** ** *****	
Canine Microtr	201	RVVKMSPIERLEHAFSKAQTLYLGIEKLLDPEDVAVQLPKKSIIMYITSL	250
Human Microtr	201	KVVKMSPIERLEHAFSKAQTLYLGIEKLLDPEDVAVQLPKKSIIMYITSL	250
Mouse Microtr	201	EMVKMSPIERLDHAFDKAHTSLGIEKLLSPETVAVHLPKKSIIMYITSL	250
		***** ** *****	

FIG. 2B

Canine Microtr	251	FEVLPQQVTLD	AI	RE	VE	T	LP	RY	KE	CE	EE	GI	SI	QS	SA	PE	EE	HE	CP	GA	ET	300	
Human Microtr	251	FEVLPQQVTID	AI	RE	VE	T	LP	RY	KE	CE	EE	AI	NI	QS	TA	PE	EE	HE	SP	RA	ET	300	
Mouse Microtr	251	FEVLPQQVTID	AI	RE	VE	T	LP	RY	KE	CE	EE	II	HI	QS	AV	LA	EE	GS	PR	AE	ET	300	
		*****										*	***								***		
		*****										*	***								***		
Canine Microtr	301	PSTVTEVD	TD	LD	SY	QI	AL	EE	VL	TW	LL	SA	ED	TF	QE	DD	DI	SD	DD	VE	EV	KE	QFT
Human Microtr	301	PSTVTEVD	MD	LD	SY	QI	AL	EE	VL	TW	LL	SA	ED	TF	QE	DD	DI	SD	DD	VE	EV	KE	QFA
Mouse Microtr	301	PSTVTEVD	MD	LD	SY	QI	AL	EE	VL	TW	LL	SA	ED	TF	QE	DD	DI	SD	DD	VE	EV	KE	QFA
		*****										*	*****								*****	***	
Canine Microtr	351	THEAFM	MEL	TA	HQ	SS	VG	SV	LQ	AG	NQ	LIT	Q	GL	S	D	E	E	E	E	E	E	E
Human Microtr	351	THEAFM	MEL	TA	HQ	SS	VG	SV	LQ	AG	NQ	LIT	Q	GL	S	D	E	E	E	E	E	E	E
Mouse Microtr	351	THEAFM	MEL	TA	HQ	SS	VG	SV	LQ	AG	NQ	LIT	Q	GL	S	D	E	E	E	E	E	E	E
		*****										*	*****								*****	***	
Canine Microtr	401	WEALRV	DS	MN	RQ	SR	LD	VL	ME	LQ	KK	Q	L	Q	L	S	AW	LT	LT	TE	RI	Q	K
Human Microtr	401	WEALRV	ES	MD	RQ	SR	LD	VL	ME	LQ	KK	Q	L	Q	L	S	AW	LT	LT	TE	RI	Q	K
Mouse Microtr	401	WEALRV	ES	MR	Q	SR	LD	AL	ME	LQ	KK	Q	L	Q	L	S	SW	LA	LT	TE	RI	Q	K
		*****										*	*****								*****	***	
Canine Microtr	451	DDLK	S	LQ	KL	LE	DH	K	R	LQ	ND	LE	AE	Q	V	K	NS	LT	HM	V	I	V	D
Human Microtr	451	DDVK	S	LQ	KL	LE	E	H	K	S	LQ	SD	LE	AE	Q	V	K	NS	LT	HM	V	I	V
Mouse Microtr	451	DDLPS	LQ	KL	Q	E	H	K	S	LQ	ND	LE	AE	Q	V	K	NS	LT	HM	V	I	V	D
		*****										*	*****								*****	***	
Canine Microtr	501	DQLQ	KL	GER	WT	AV	CR	WT	EE	R	W	S	R	LQ	E	IN	IL	WQ	EL	LE	E	Q	CL
Human Microtr	501	DQLQ	KL	GER	WT	AV	CR	WT	EE	R	W	N	R	LQ	E	IN	IL	WQ	EL	LE	E	Q	CL
Mouse Microtr	501	DQLQ	KL	GER	WT	AV	CR	WT	EE	R	W	N	R	LQ	E	IS	IL	WQ	EL	LE	E	Q	CL
		*****										*	*****								*****	***	

FIG. 2C

Canine Microtr	551	ALNKVQTSNFKDQKELSVSRRLAILKEDMENKRALDQLSEIGQDVGQL	600
Human Microtr	551	ALNKVQTSNFKDQKELSVSRRLAILKEDMENKRALDQLSEIGQDVGQL	600
Mouse Microtr	551	ALDKVQTSNFKDQKELSVSRRLAILKEDMENKRALDQLSEIGQDVGQL	600
		** *****	
Canine Microtr	601	VDNPKASKKINSSEELTQRWDSLVQRLSDSSQVTOAVAKLGMSQIPQK	650
Human Microtr	601	LDNSKASKKINSSEELTQRWDSLVQRLSDSSQVTOAVAKLGMSQIPQK	650
Mouse Microtr	601	LSNPKASKKINSSEELTQRWDSLVQRLSDSSQVTOAVAKLGMSQIPQK	650
		* *****	
Canine Microtr	651	DLLETVRIREQVTTKRSKQELPPPPPKKRQIPVDLEKLRDLQGAMDDL	700
Human Microtr	651	DLLETVRVREQAITTKSKQELPPPPPKKRQIHVDLEKLRDLQGAMDDL	700
Mouse Microtr	651	DLLETVHVREQGMVKPKQELPPPPPKKRQIHVDLEKLRDLQGAMDDL	700

Canine Microtr	701	VDMKEAEAVRNGWKPVGDLIDSLQDHIEKTMAFREEIAPINLKVKTVND	750
Human Microtr	701	ADMKEAESVRNGWKPVGDLIDSLQDHIEKTMAFREEIAPINLKVKTVND	750
Mouse Microtr	701	ADMKEVEAVRNGWKPVGDLIDSLQDHIEKTLAFREEIAPINLKVKTMND	750

Canine Microtr	751	LSSQLSPDLHPSLKMSRQLDDLNMWRKLLQVSVDDRLKQLQEAHRDFGP	800
Human Microtr	751	LSSQLSPDLHPSLKMSRQLDDLNMWRKLLQVSVDDRLKQLQEAHRDFGP	800
Mouse Microtr	751	LSSQLSPDLHPSLKMSRQLDDLNMWRKLLQVSVDDRLKQLQEAHRDFGP	800

FIG. 2D

Canine Microutr	801	SSQHFLSTSVQLPWQRSISHNKVPYYINHQTTTCWDHPKMTL	850
Human Microutr	801	SSQHFLSTSVQLPWQRSISHNKVPYYINHQTTTCWDHPKMTL	850
Mouse Microutr	801	SSQHFLSTSVQLPWQRSISHNKVPYYINHQTTTCWDHPKMTL	850

Canine Microutr	851	LNNVRESAYRTAIRRLQKALCLDLLELNTTNEVFKQHKLNQNDQLSV	900
Human Microutr	851	LNNVRESAYRTAIRRLQKALCLDLLELSTTNEIFKQHKLNQNDQLSV	900
Mouse Microutr	851	LNNVRESAYRTAIRRLQKALCLDLLELNTTNEVFKQHKLNQNDQLSV	900

Canine Microutr	901	PDVINCLTTTYDGLQMHKDLNVNPLCVDMLNWLNVYDTGRTGKIRVQ	950
Human Microutr	901	PDVINCLTTTYDGLQMHKDLNVNPLCVDMLNWLNVYDTGRTGKIRVQ	950
Mouse Microutr	901	PDVINCLTTTYDGLQMHKDLNVNPLCVDMLNWLNVYDTGRTGKIRVQ	950
Canine Microutr	951	SLKIGLSLSKGLLEEKYRYLFKEVAGPTMCDQRLGLLLHDAIQIPRQ	1000
Human Microutr	951	SLKIGLSLSKGLLEEKYRYLFKEVAGPTMCDQRLGLLLHDAIQIPRQ	1000
Mouse Microutr	951	SLKIGLSLSKGLLEEKYRYLFKEVAGPTMCDQRLGLLLHDAIQIPRQ	1000

Canine Microutr	1001	IGEVAAFGGSNIEPSVRSVFQNNNKPEISVKDEFIDWMRLPQSMVWLPV	1050
Human Microutr	1001	IGEVAAFGGSNIEPSVRSVFQNNNKPEISVKDEFIDWMRLPQSMVWLPV	1050
Mouse Microutr	1001	IGEVAAFGGSNIEPSVRSVFQNNNKPEISVKDEFIDWMRLPQSMVWLPV	1050

Canine Microutr	1051	LHRVAAAEATAKHQAKCNICKECPVIGERYRSLKHFNVDVCSCFFSGRTA	1100
Human Microutr	1051	LHRVAAAEATAKHQAKCNICKECPVIGERYRSLKHFNVDVCSCFFSGRTA	1100
Mouse Microutr	1051	LHRVAAAEATAKHQAKCNICKECPVIGERYRSLKHFNVDVCSCFFSGRTA	1100

FIG. 2E

Canine Microtr 1101 KGHKLHYPMVEYCIPTTSGEDVRDFTKVLKNKFRSKKYFAKHPRLGYPV 1150
Human Microtr 1101 KGHKLHYPMVEYCIPTTSGEDVRDFTKVLKNKFRSKKYFAKHPRLGYPV 1150
Mouse Microtr 1101 KGHKLHYPMVEYCIPTTSGEDVRDFTKVLKNKFRSKKYFAKHPRLGYPV 1150

Canine Microtr 1151 QTVLEGDNLETN 1162
Human Microtr 1151 QTVLEGDNLETN 1162
Mouse Microtr 1151 QTVLEGDNLETN 1162

Formatted Alignments

Human Ultraplin	MAKYGFEHFA	SPDNGQNEEESD	LIKESRESD	YERER	HNNDVQKQK	IFIKKVINAR	ESKSGK	50
Human Dystrophin	MLWWEVE	DC			EDVQKQK	IFIKKVINAQ	ESKSGK	50
Human Ultraplin	PPENDMFI	DLKDGK	LIYDLEGL	IGTST	IPPEE	RGSTIRVHA	INNVNEVL	100
Human Dystrophin	QHLENLFS	DLQDGR	SLIDLEGL	IGTST	IPPEE	RGSTIRVHA	INNVNEVL	100
Human Ultraplin	HQNNVFLV	NIIG	GTLLV	VDGNRR	LIIGL	LVST	ILHVCV	150
Human Dystrophin	QNNVFLV	NIIG	GTLLV	VDGNRR	LIIGL	LVST	ILHVCV	150
Human Ultraplin	NREKIL	LSVVR	QITTE	PPYS	QVNV	LNRTTS	VDGLA	200
Human Dystrophin	NREKIL	LSVVR	QITTE	PPYS	QVNV	LNRTTS	VDGLA	200
Human Ultraplin	KVVKMS	-PIERIEHA	PSK	KQTY	LGTE	RLIDPE	EDVAVRL	250
Human Dystrophin	SVVCQQ	SEATQ	ELTHA	ENI	ARYQ	LGTE	RLIDPE	250
Human Ultraplin	LE	ELPQQ	QVT	LD	AI	R	EV	300
Human Dystrophin	LE	ELPQQ	QVT	LD	AI	R	EV	300

HINGE 1

Fig 3A

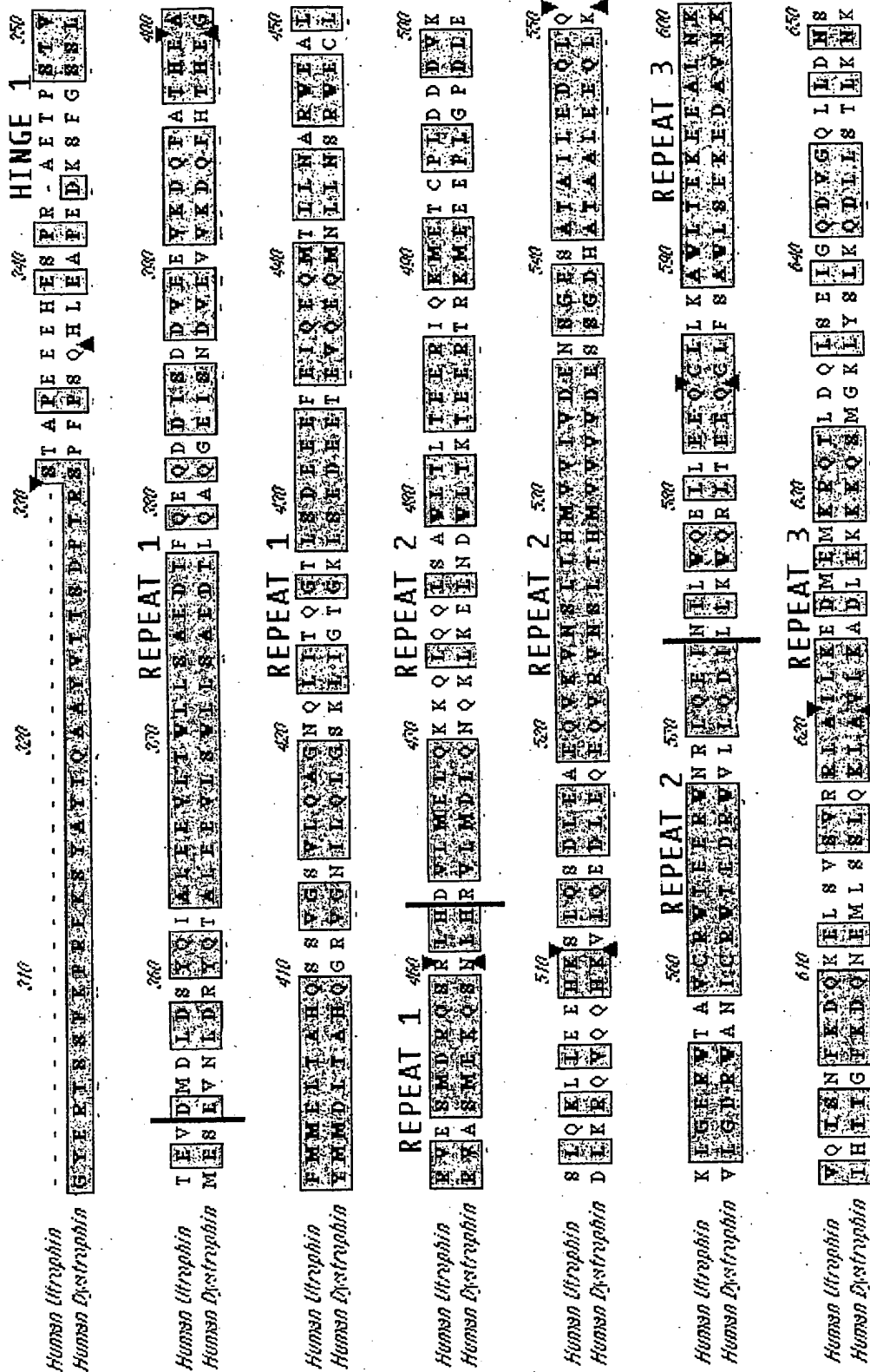


FIG 3B

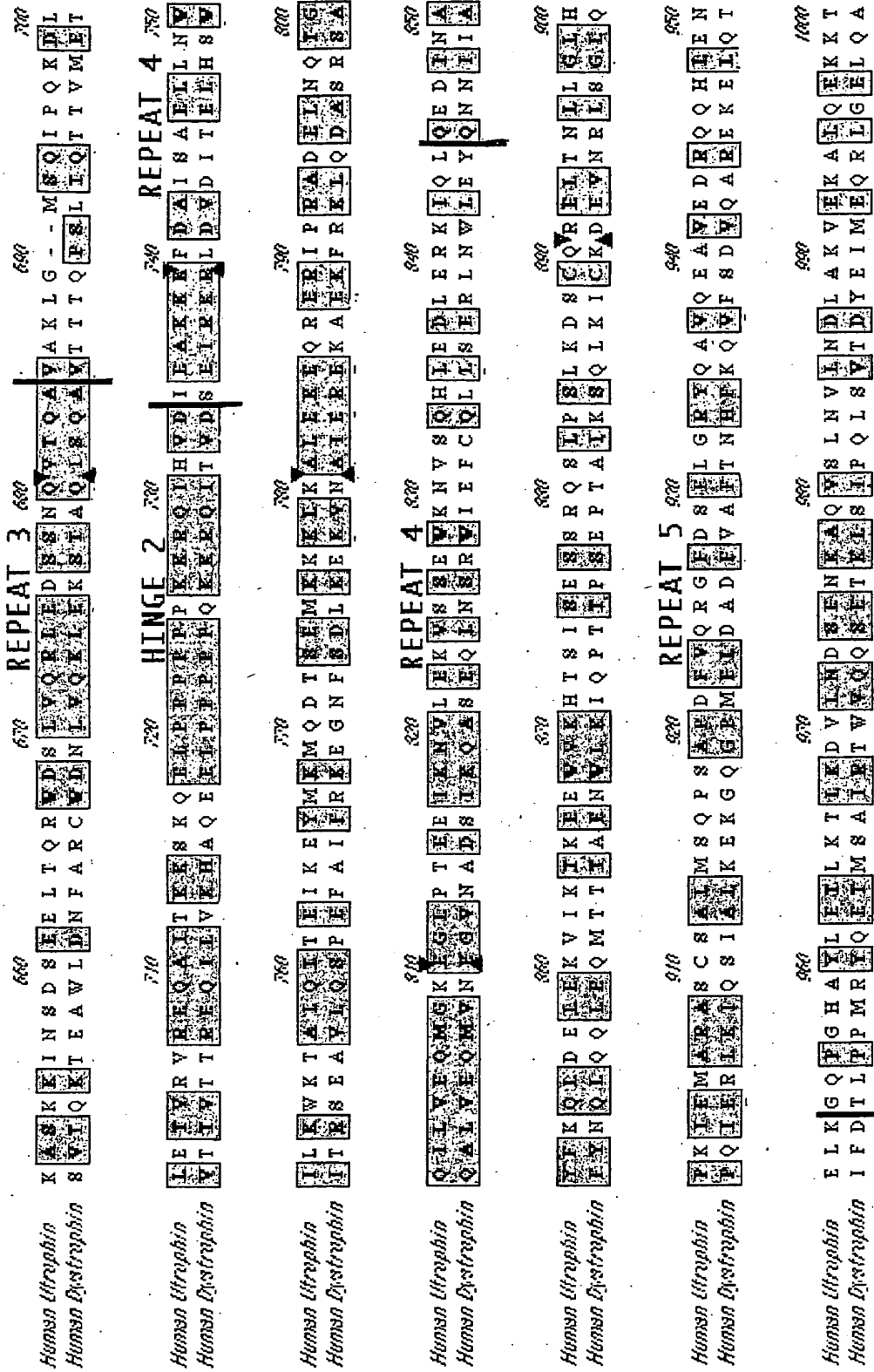


FIG 3C

Human Ultraphin	1010	1020	1030	1040	1050	1060	1070	1080	1090	1100	1110	1120	1130	1140	1150	1160	1170	1180	1190	1200	1210	1220	1230	1240	1250	1260	1270	1280	1290	1300	1310	1320	1330	1340	1350																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Human Dystrophin	LDEI	ENQKPP	ALHKK	LAEE	TTKAE	TTV	EMSE	KKAP	SVH	PDY	EEK	LLK	QFDD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK	LLK	V	EE	DD	VQ	GFW	NK</

FIG3D

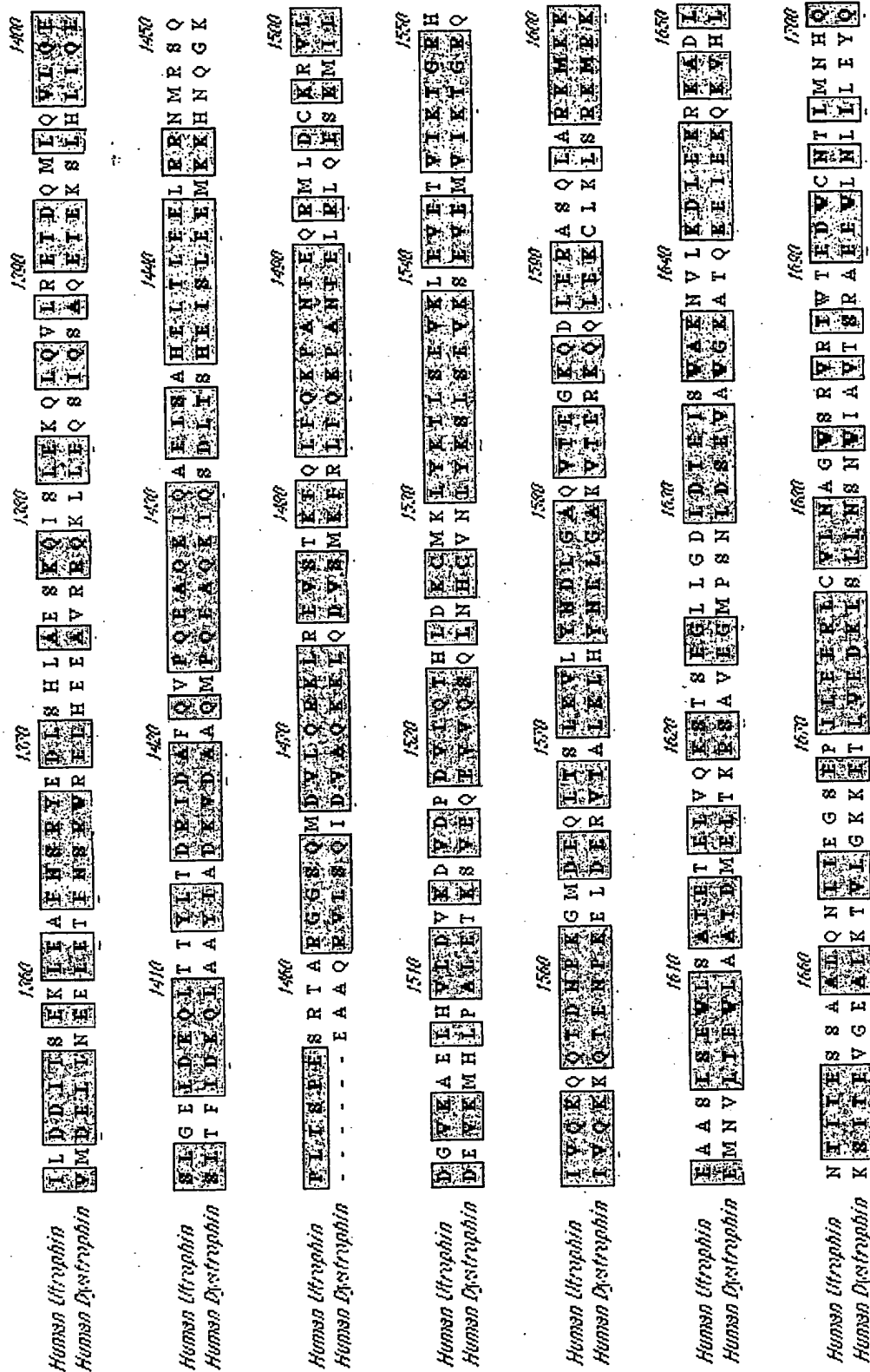
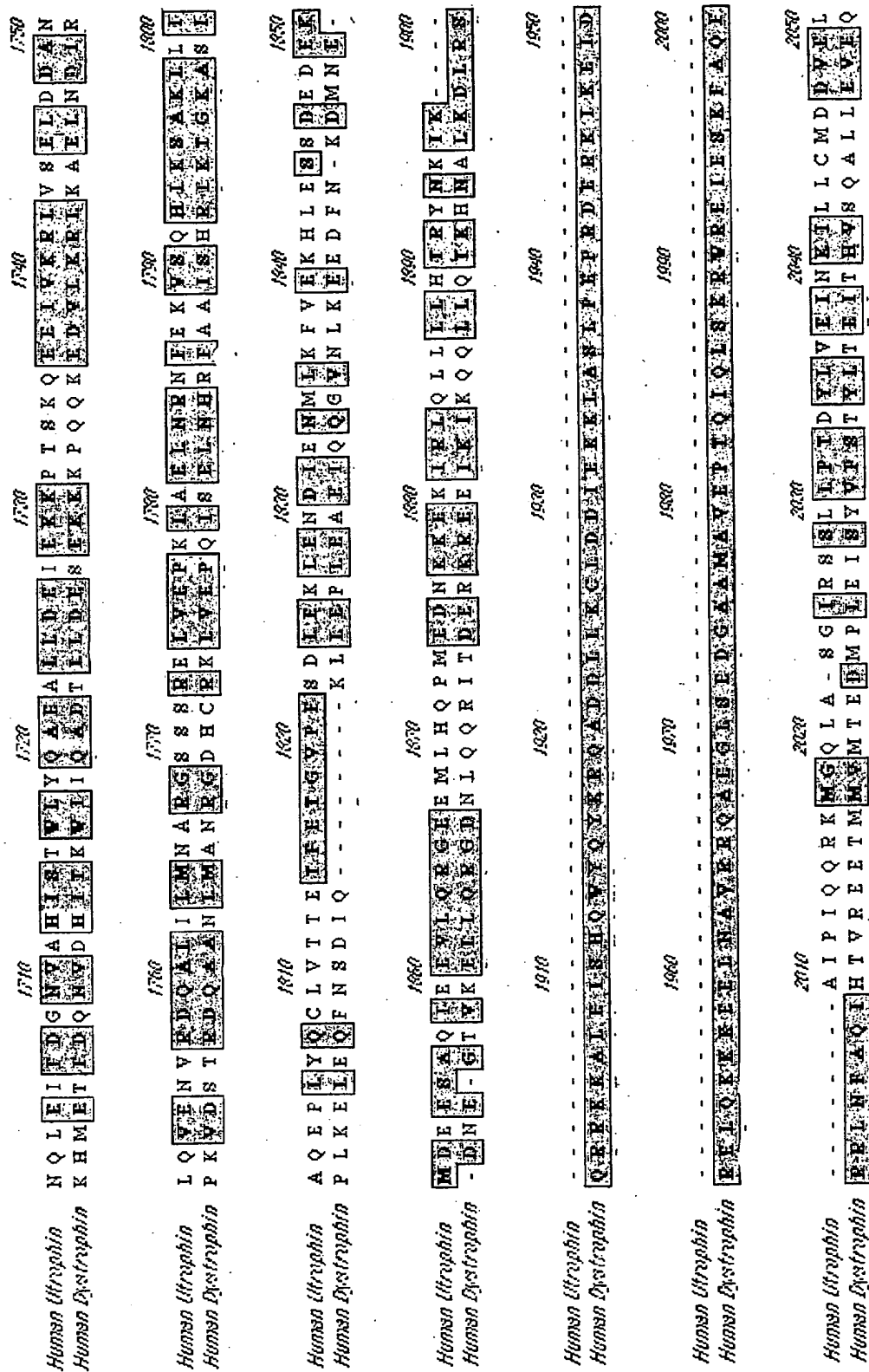


FIG 3E



4364

Human Ultraphin	2060	2070	2080	2090	2100
Human Dystrophin	S L N V P E L I N T A I V E D F S F Q T D N L K N I K D Q L D K L G E Q T A V I H E E Q P D V I L E A A				
	L I N A I D L C A K D E F D L F K Q C H F E L K N E D S I Q Q S S G R I D L I H S K K T A A L Q S A				
Human Ultraphin	2110	2120	2130	2140	2150
Human Dystrophin	S G P F A I Q I R D T I T Q L N A K V D E A N M Y S S E H K G C F D P A M E E V P Q F H C D I N D L				
	T P V E R V K I Q E A S Q L D F Q W E K T Y N E M Y K D E E Q G R F D S V E K V P R F H Y D L K I F				
Human Ultraphin	2160	2170	2180	2190	2200
Human Dystrophin	T Q V I I E A E E L I V D I C A P G G E L D L E K A R I H Q Q E E V G I S S H Q P S F A A L I N R I				
	N Q V L I E A E Q F L R K I I Q I P E N - W E H A E Y K W Y L K E L Q D G I G Q P Q T V V R I L I H A I				
Human Ultraphin	2210	2220	2230	2240	2250
Human Dystrophin	G D G I V Q K L S Q A D G S F I K F F L A G I N Q E W D A I V A A E V K D E Q P P K L K G E S K Q V M K				
	E E F I I Q Q S S K T D A S I I L Q E E I G S I N L P E Q E V C K Q L S D E K K E L E E Q K N I I I S E				
Human Ultraphin	2260	2270	2280	2290	2300
Human Dystrophin	Y R H Q L D D E I I C W I T K A H A M Q K R S - - - T T E I G E N L Q E E I R D I T Q E E M E V H A E				
	K Q E D I N E F V L W L E E A D N A S I P L E F S E E Q Q L K E K L E E Q V M L L V E E L P L R Q G				
Human Ultraphin	2310	2320	2330	2340	2350
Human Dystrophin	K I K V T N R T E L E M L S D K S T S L P E R D K I S E S I R T V N M T V N N E - - - - -				
	I E K Q I N E T G G P V L V S A P T S P E E Q D E L E N K E K Q T N L Q V I E V S E A L P E E Q G E				
Human Ultraphin	2360	2370	2380	2390	2400
Human Dystrophin	I E A Q I K I I G Q I E K I E D I E F Q I N H I I V L S P I P H Q L I I Y N Q P N Q E G P F D V				

FIG 3A

Human Ultraphin 2410 2420 2430 2440 2450
 Human Dystrophin 2460 2470 2480 2490 2500
 Q E E F I L A V Q A L E Q P L V E F I L S E G Q H L Y K K E F A T Q P V K R K L E D L S S E E V K A V N R L C R E

Human Ultraphin 2510 2520 2530 2540 2550
 Human Dystrophin 2560 2570 2580 2590 2600
 V P T T L K E C I Q E P S S V S Q T R I A A H P N V Q K V V L V S S A S D L P V Q S H R
 L L Q E E E A K Q P D L A P G L T T I G A S P T Q T V T L V T Q P V V T E E T A I S K L E M P S S L

Human Ultraphin 2610 2620 2630 2640 2650
 Human Dystrophin 2660 2670 2680 2690 2700
 T S E F S T P A D L D K T I T E L A D V L V L L D Q M I E E N I V T V G D R F E F I N K T I V S E M E K I
 M L E V P A L A D F N R A W T E L T R V L S I L L D Q V I K S Q E R V M V G D L I E D I N E M I I K Q

Human Ultraphin 2710 2720 2730 2740 2750
 Human Dystrophin 2760 2770 2780 2790 2800
 L K A D L E Q R H E Q L D Y V F T I A Q N L K N K A S S S D M E I A I L E E V K N Q V D G T Q
 T M Q D L E Q R H E Q L D Y V F T I A Q N L K N K T S N Q F A E I I L D R A E R I Q N Q V D E V Q

Human Ultraphin 2810 2820 2830 2840 2850
 Human Dystrophin 2860 2870 2880 2890 2900
 H G V E L E Q Q L E E D M I I D R L Q V D D H R E E T E E L M R K K Y E A P E Y I L Q Q A R R - - D P
 E H L Q N E R Q Q Q N T E M L K D S T Q V L L A K E E A E E Q V L G Q A R A K L E S W K E G P Y T Y D A

Human Ultraphin 2910 2920 2930 2940 2950
 Human Dystrophin 2960 2970 2980 2990 3000
 L T E Q I S D N Q I L L Q E L G P G D G I V M E F D N V L Q K L L E E Y G S D D I E R N V E T T E Y
 I I Q K K I T L T K Q L A K D E R Q W Q T N V D V A N D L A L K L L R D Y S A D D I E K K V H M I E N

Human Ultraphin 3010 3020 3030 3040 3050
 Human Dystrophin 3060 3070 3080 3090 3100
 L K T S V I N I E Q S S A D Q Q N A L H A E V R T V Q A S R R R D E F H N N I K V F I Q E A E T T V N L
 I I N A S V R S I H K K P V S E E E A A L H E T H E R L L Q Q F P L D L E K F F A V T T E A E T T A N V L

FIG 3H

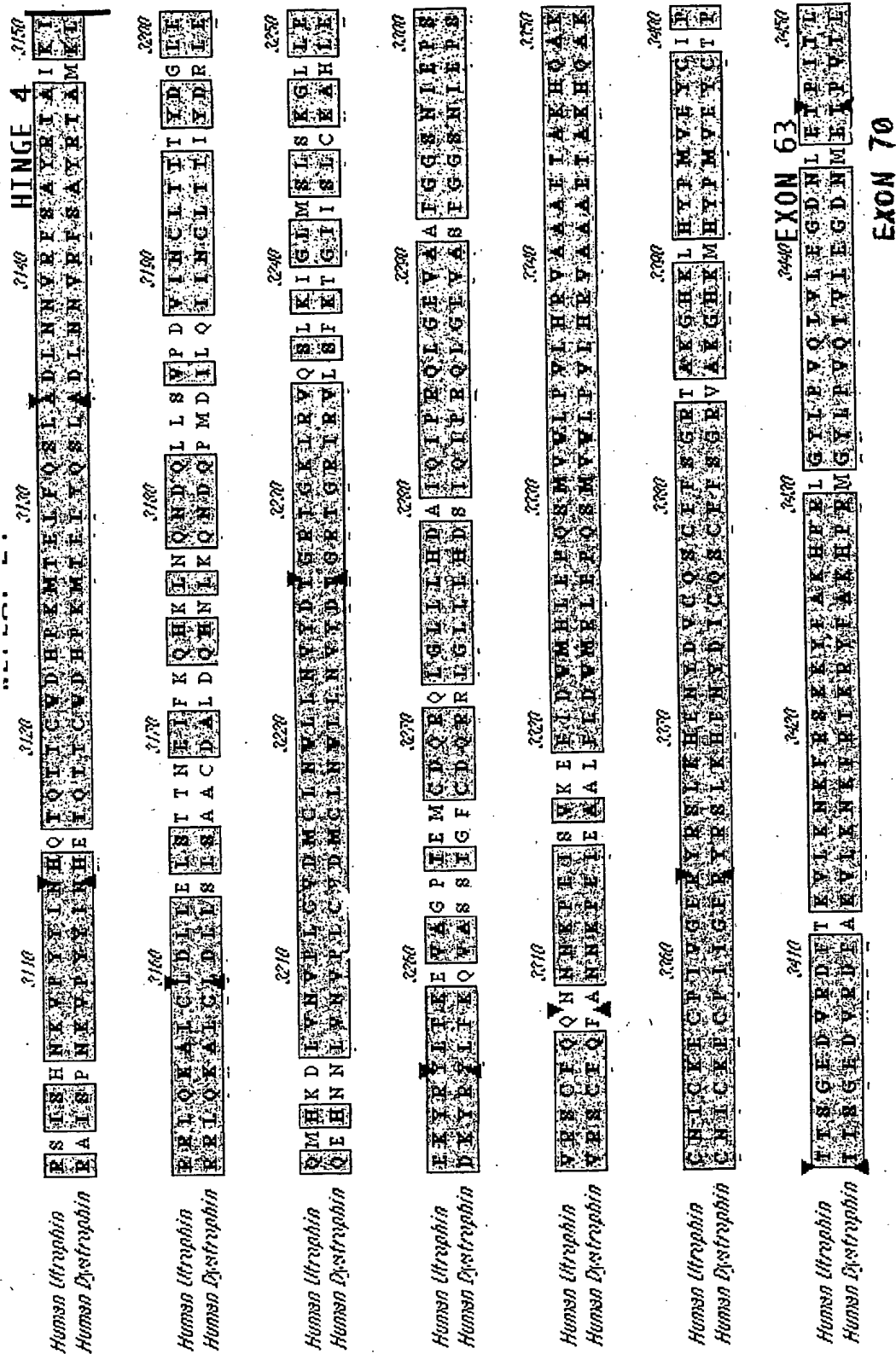


FIG 3J

EXON 64

Human Ultraphin
Human Dystrophin

2460 2470 2480 2490 2500

I S M V E H Y D P S Q N C Q L F H D D T H S P R I T Q T A T P L A Q M E R T N G S E I I T D S S I T I
I N F V D S A P A S S P Q L S H D D T H S P R I H Y A S E L A E E E N N N G S Y L N D S I S P N

EXON 71

Human Ultraphin
Human Dystrophin

2510 2520 2530 2540 2550

G S V E D E H A T I Q Q Y C Q I I G G E S P Y S Q P Q S P A Q L L K V L R F F P G L L P I I A D
E S I D D E H L I I Q H Y C Q S L N Q D S R I S Q P R S T A Q L I S I L I S F L R G L L E E L L A D

Human Ultraphin
Human Dystrophin

2560 2570 2580 2590 2600

L L F E Q P N Q V P Y F Q L K D Q H L P R G L T P G S P P E S I I S P H H T S E D S E L I A E A
L L L E H N N D Q A E D R K Q Q H E H F G L S P L P S P E F E M M P I S P Q S P R D A E E I A F A

Human Ultraphin
Human Dystrophin

2610 2620 2630 2640 2650

K L L E R Q H K G R L E A R M Q L I F D H N P Q L F S Q L H R I P Q L F Q P E S D S E I N G - - - V
K L I R Q H G L L E A R M Q L I F D H N P Q L F S Q L H R I P Q L F Q P E S D S E I N G I I Y S

Human Ultraphin
Human Dystrophin

2660 2670 2680 2690 2700

S P W A S P Q H S A L S Y S L D P D A S S G P Q F H Q A - A G E D I L A T T H A T T S T D D I T E Y M E Q
S P S T S L Q R S D S S S Q P M L L R V V G S Q T S D S S M S E E D I L S P E P Q D I S T G L E E Y M E Q

Human Ultraphin
Human Dystrophin

2710 2720 2730 2740 2750

I H S T P P S C C Y N - - - V P S P P Q A M
I N N S I P S S R G R R H T E R G K P P E D T M

FIG 3K